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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,829	02/08/2005	Shigeru Ashida	Q86138	3991

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EXAMINER	
NGUYEN, CHAU N	
ART UNIT	**PAPER NUMBER**
2831	

DATE MAILED: 11/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/523,829	ASHIDA ET AL.	
	Examiner	Art Unit	
	Chau N. Nguyen	2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/8/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on pages 9 and 10, reference numeral "1A" is used for both "a cable" and "electrical connector". Page 18, lines 13-14, the phrase "an electrical connector 5 includes a conductor 41 covered with an insulator 42, and an insulation covered electric wire 40" is unclear and causes confusion. Appropriate correction is required.

Claim Objections

2. Claim 18 is objected to because of the following informalities: in claim 18, lines 11-12, "the connector housing" and "the foam resin" lack antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 4, 7, 8, 10, and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Moore et al. (6,064,003).

Moore et al. discloses an electrical connector (Figures 6-8) comprising a terminal (71) fixed to connector housing, a conductor exposed from a covering and having a connection portion connected to a connection portion of the terminal, a foam element (72) at a predetermined foam ratio located around respective connection portions of the conductor and the terminal (re claims 1 and 14). Moore et al. also discloses the foam element including a foam resin (re claim 3), the foam element having strength to maintain a structure thereof (re claim 7), the foam element being molded to cover respective connection portions (re claim 10), and the conductor and the terminal being connected by welding (col. 3, lines 45-48). Claim 8 is a method counterpart of claim 1. Re claim 4, the foam element can function as a capacitive capacitor since it comprises structure and material as claimed. Re claim 16, since the conductor and the terminal being connected together by welding, there would be a molten alloy layer at the connection portion.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 2, 6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al. in view of Knapp et al. (4,521,064).

Moore et al. discloses the invention substantially as claimed except for the impedance of the foam element being closer to impedance of the covering (the foam ratio of the foam element is 20% or more, see specification page 12, lines 5-7) and the foam ratio of the foam element being greater than 0% and 80% or less.

Knapp et al. discloses an electrical connector comprising a foam element (50) which has a foam ratio of 35%-55%. It would have been obvious to one

skilled in the art to provide the foam element of Moore et al. to have an impedance being closer to impedance of the covering, in other words to provide the foam element of Moore et al. with a foam ratio as taught by Knapp et al. since lower ratio would reduce the moisture-proof qualities and higher ratio would reduce the compressibility of the material.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al. in view of Hutchison (4,070,084).

Moore et al. discloses the invention substantially as claimed including the connection portions being located in the cavity of the connector housing. Moore et al. does not disclose the connector housing being made of a foamed resin. Hutchison discloses an electrical connector comprising a connector housing (15). Hutchison discloses that using foamed material for the connector housing would lower the dielectric constant. It would have been obvious to one skilled in the art to use foamed resin for the connector housing of Moore et al. to lower the dielectric constant around the connection portions as taught by Hutchison.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al. in view of Urushibata et al. (5,057,650).

Moore et al. discloses the invention substantially as claimed except for the foam element being formed into a predetermined shape to be fitted to respective connection portions. Urushibata et al. discloses an electrical connector comprising a predetermined shape (20) which is formed to be fitted to respective connection portions. It would have been obvious that instead of molding the foam element of Moore et al. to cover respective connection portions, one skilled in the art would form the foam element into a predetermined shape to be fitted to respective connection portions as taught by Urushibata et al. to eliminate the molding step at the connection time.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al. in view of Bates (4,864,081).

Moore et al. discloses the invention substantially as claimed except for the foam element being formed as a tape to be wound around the connection portions. Bates discloses an electrical connection comprising a foam tape (50) covering the connection portions. It would have been obvious that instead of molding to form the foam element to cover the connection portions of Moore et al., one skilled in the art would use the foam tape as taught by Bates to wind around the connection portions since a preformed tape is much easier to apply at the connection time as

taught by Bates and since winding a tape around an electrical connection is well-known in the art.

11. Claims 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beamenderfer et al. (4,834,674) in view of Moore et al.

Beamenderfer et al. discloses an electrical connector (Figure 6) comprising a cable which is comprised of an electrical wire including a conductor exposed from a first covering, a drain wire (5) arrayed parallel to the electric wire, and a jacket holding the electric wire and the drain wire, a connection terminal having a connection portion connected to an end of the conductor, an earth terminal having a connection portion connected to an end of the drain wire, a connector housing receiving the connection terminal and the earth terminal, a resin (18) located around the end of the conductor, the connection portion of the connection terminal, the end of the drain wire and the connection portion of the earth terminal, and a second covering (19) located around the resin (18). Beamenderfer et al. also discloses the conductor and the terminal being welded together.

Although it may be shown in Figure 6, Beamenderfer et al. does not specifically disclose the resin (18) being a foam resin, the foam resin being extruded to cover the connection, nor the second covering being molded.

Moore et al. discloses an electrical connector comprising a foam resin (72) located around connection portions. It would have been obvious to one skilled in the art to use foam resin for the resin (18) of Beamenderfer et al. to cover the connection portions to provide a water-tight seal over the joint as taught by Moore et al.

It would have been obvious to one skilled in the art to provide the foam resin (18) and the second covering (19) of Beamenderfer et al. by extrusion and by molding respectively since these are well-known methods in the art for being used to form coverings or housings.

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. (5,780,774) in view of Moore et al.

Ichikawa et al. discloses a method of fabricating a connector (Figure 3), comprising welding a terminal and a conductor to each other for connection, forming a pair of resin members preliminarily formed into shapes which conform to an upper half and a lower half shape of connection portions, and fitting said pair of resin members around the connection portions.

Ichikawa et al. does not disclose the pair of resin members being made of foam resin nor molding a resin around the foam resin members. Moore et al.

discloses an electrical connector comprising foam resin member (72) covering the connection portions of terminal and conductor and a resin (74) around the foam member (72). It would have been obvious to one skilled in the art to use foam resin as taught by Moore et al. for the resin members of Ichikawa et al. to provide a water-tight seal over the connection portions. It would also have been obvious to one skilled in the art to mold a resin (74) as taught by Moore et al. around the pair of foam resin members of Ichikawa et al. to provide a positive seal and since molding is a well-known method for being used to form a resin cover around another member.

13. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. in view of Bates.

Ichikawa et al. discloses an electrical connector, comprising welding a terminal to a conductor and molding a resin (Figures 3-4) for a connector housing around the terminal and the conductor exposed from a covering. Ichikawa et al. does not disclose preparing a foam resin tape to be wound around the connection portions before molding the resin. Bates discloses an electrical connector comprising a foam resin tape covering a connection portion between a terminal and a conductor. It would have been obvious to one skilled in the art to use the foam

resin tape as taught by Bates to wind around the connection portion of Ichikawa et al. to further protect the connection portion and since winding a tape around an electrical connection is well-known in the art.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau N. Nguyen whose telephone number is 571-272-1980. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chau N Nguyen
Primary Examiner
Art Unit 2831